COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. Please amend the claims as follows:

Listing of Claims:

1. (Currently Amended) A computer-implemented method for developing a first electronic resource for use within a network environment, the method comprising:

defining by a computer a plurality of instructions for rendering the first electronic resource for presentation to users;

declaring by the computer within the plurality of instructions a reference to a second electronic resource, wherein the reference comprises a link identifier associated with a network location for the second electronic resource;

creating by the computer a reference file mapping the link identifier to a unique address corresponding to the network location on which the second electronic resource is stored, wherein the reference file is used by a server computer to abstract the unique address of the network location from the link identifier in order to prepare the first electronic resource for delivery to a client computer; and

when the second electronic resource is moved from the network location to a new network location, changing the reference file to map the link identifier to a new unique address corresponding to the new network location and maintaining the reference to the second electronic resource unchanged.

2. (Currently Amended) A method as defined in claim 1, wherein the creating act comprises:

incorporating by the computer into the reference file a plurality of link identifiers mapped to a plurality of unique addresses corresponding to network locations on which a plurality of electronic resources referenced within at least one other electronic resource maintained within the network environment are stored, wherein the second electronic resource is one of the

plurality of electronic resources and the unique address of the network location for the second electronic resource is one of the plurality of unique addresses.

3. (Currently Amended) A method as defined in claim 2, further comprising:

compiling by the computer the reference file to render an index file and an associated data structure, wherein the index file relates each of the plurality of link identifiers to an entry of address information contained in the associated data structure, wherein the entries of address information each specify a unique address within the network environment where each of the electronic resources are stored, the index file and the associated data structure being in a format readable by the server computer for use in abstracting the unique address of the network location from the link identifier.

4. (Original) A method as defined in claim 3, wherein each of the plurality of unique addresses comprises a service class identifying one of a plurality of server computers addressed by one of a plurality of domain names in the network environment.

5. (Original) A method as defined in claim 4, wherein each of the plurality of unique addresses further comprises a directory path corresponding to a specific location on one of the plurality of server computers addressed by one of a plurality of domain names in the network environment.

6. (Original) A method as defined in claim 5, wherein at least one of the plurality of unique addresses further comprises a query string of search parameters.

7. (Original) A method as defined in claim 1, wherein the reference file is in a format readable by the server computer.

8. (Currently Amended) A system for abstracting links to electronic resources within a network environment, the system comprising:

one or more processors for executing computer executable instructions; and

one or more computer storage media storing computer executable instructions that when executed by the one or more processors provide:

a plurality of link identifiers associated with a plurality of network locations on which a plurality of electronic resources are stored, wherein at least one of the plurality of link identifiers corresponds to a first electronic resource being referenced within a second electronic resource; and

a reference file mapping each of the plurality of link identifiers to a unique network address where an electronic resource is maintained within the network environment, the reference file being used by a server computer to abstract the unique network address of the first electronic resource from the link identifier in order to prepare the second electronic resource for delivery to a client computer, wherein when the first electronic resource is moved from a network location to a new network location, the reference file is changed to map the at least one of the plurality of link identifier from a first unique network address to a second unique network address corresponding to the new network location and the at least one of the plurality of link identifier is maintained unchanged.

9. (Original) A system as defined in claim 8, wherein the reference file is in a format readable by the server computer.

10. (Original) A system as defined in claim 9, wherein each of the plurality of unique addresses comprises:

a service class identifying one of a plurality of server computers addressed by one of a plurality of domain names in the network environment; and

a directory path corresponding to a specific location on one of the plurality of server computers addressed by one of a plurality of domain names in the network environment.

11. (Original) A system as defined in claim 10, wherein at least one of the

plurality of unique addresses further comprises a query string of search parameters.

12. (Original) A system as defined in claim 8, wherein the reference file is compiled to yield an index file and an associated data structure, wherein the index file relates each of the plurality of link identifiers to an entry of address information contained in the associated data structure, wherein the entries of address information each specify the unique network address of an electronic resource maintained within the network environment, the index file and the associated data structure being in a format readable by the server computer for use in abstracting the unique network address of first electronic resource from the link identifier.

13. (Original) A system as defined in claim 12, wherein each of the plurality of unique addresses comprises:

a service class identifying one of a plurality of server computers addressed by one of a plurality of domain names in the network environment; and

a directory path corresponding to a specific location on one of the plurality of server computers addressed by one of a plurality of domain names in the network environment.

14. (Original) A system as defined in claim 13, wherein at least one of the plurality of unique addresses further comprises a query string of search parameters.

15. (Original) A system as defined in claim 8, wherein the second electronic resource comprises machine-readable instructions for rendering an electronic document.

16. (Original) A system as defined in claim 15, wherein the electronic document is a web page.

17. (Original) A system as defined in claim 8, wherein the network environment comprises the Internet.

18-28. Canceled

29. (Currently Amended) A method for preparing electronic resources for delivery to client computers in a network environment, the method comprising:

(a) receiving by a server computer a request for delivery of a first electronic resource to a first client computer;

(b) retrieving by the server computer from storage the first electronic resource;

(c) before transmitting the first electronic resource from the server computer to the first client computer, the server computer examining the first electronic resource to determine whether the first electronic resource includes a link identifier corresponding to a second electronic resource being referenced as a link within the first electronic resource;

(d) if a link identifier is detected within the first electronic resource, the server computer using the link identifier to identify a unique address specifying a storage location in the network environment on which the second electronic resource is stored, wherein when the second electronic resource is moved from the storage location to a new storage location: the server computer identifying a second unique address specifying a new storage location in the network environment on which the second electronic resource is stored and maintaining the link identifier unchanged;

(e) when the second electronic resource has not moved, the server computer incorporating the identified unique address into the first electronic resource to generate a prepared first electronic resource and when the second electronic resource has moved, incorporating the second unique address into the first electronic resource to generate a prepared first electronic resource; and

(f) the server computer transmitting the prepared first electronic resource to the first client computer to effectuate delivery of the electronic resource thereto only after the identified unique address has been incorporated into the first electronic resource.

30. (Original) A method as defined in claim 29, wherein the link identifier is included within a link tag declared within the first electronic resource, the incorporating act (e)

comprising:

replacing the link tag with a reference tag specifying the identified unique address.

31. (Original) A method as defined in claim 30, wherein the first electronic resource is processed by the first client computer to render a web page on a display device of the first client computer.

32. (Original) A method as defined in claim 31, wherein the reference tag is formatted as an href tag.

33. (Original) A method as defined in claim 29, wherein the using act (d) comprises:

(d)(1) defining an index comprising a plurality of link identifiers, wherein each of the plurality of link identifiers corresponds to an electronic resource maintained within the network environment; and

(d)(2) mapping each of the plurality of link identifiers defined in the index to an address information entry for use in identifying a unique address in the network environment where each of the electronic resources corresponding to one of the plurality of link identifiers is stored.

34. (Original) A method as defined in claim 33, wherein the using act (d) further comprises:

(d)(3) extracting the link identifier detected within the first electronic resource; and

(d)(4) referencing the index with the extracted link identifier to locate the address information entry mapped to the extracted link identifier, wherein the located address information entry is used to identify the unique address specifying the storage location on which the second electronic resource is stored.

35. (Original) A method as defined in claim 34, wherein each of the unique addresses associated with one of the plurality of link identifiers comprises a first portion and a

second portion, the first portion of each unique address being a particular domain name representing a server computer in the network environment on which electronic resources are stored and the second portion of each unique address being a directory path specifying a location on which a particular electronic resource is stored on the server computer corresponding to the domain name.

36. (Original) A method as defined in claim 35, wherein each address information entry comprises a service class identifying a particular server computer addressed by a particular domain name in the network environment, wherein the referencing act (d)(4) comprises:

referencing the index with the extracted link identifier to determine the service class mapped thereto and using the determined service class to identify the particular domain name corresponding to the first portion of the unique address of the second electronic resource.

37. (Original) A method as defined in claim 36, wherein each address information entry further comprises the directory path corresponding to a specific location on the particular server computer corresponding to the particular domain name, wherein the referencing act (d)(4) further comprises:

referencing the index with the extracted link identifier to determine the directory path mapped thereto and appending the directory path to the particular domain name identified as corresponding to the first portion of the unique address of the second electronic resource, thereby completing identification of the unique address of the second electronic resource.

38. (Original) A method as defined in claim 37, wherein the defining act (d)(1) comprises:

(d)(1)(i) creating a link source file defining each of the plurality of link identifiers as being associated with an address information entry; and

(d)(1)(ii) compiling the link source file to yield the index and an associated data structure

referenced by the index, wherein the associated data structure stores the service classes and the directory paths making up each address information entry in connection with an index pointer specified in the index for each of the plurality of link identifiers.

39. (Original) A method as defined in claim 33, wherein the defining act (d)(1) comprises:

(d)(1)(i) creating a link source file defining each of the plurality of link identifiers as being associated with an entry of address information for use in identifying a unique address in the network environment specific to each of the plurality of link identifiers; and

(d)(1)(ii) compiling the link source file to yield the index and an associated data structure referenced by the index, wherein the associated data structure stores the entries of address information in connection with an index pointer specified in the index for each of the plurality of link identifiers.

40. (Currently Amended) A system for abstracting links to electronic resources in a network environment, the system comprising:

one or more processors for executing computer executable instructions; and

one or more computer storage media storing computer executable instructions that when executed by the one or more processors provide:

an index file comprising a plurality of link identifiers associated with electronic resources maintained within the network environment, wherein the index file relates each of the link identifiers to an entry of address information specifying a unique location within the network environment on which each of the electronic resources are stored; and

a processing module operable to retrieve from storage a first electronic resource and extract therefrom a link identifier associated with a network location on which an electronic resource referenced in the first electronic resource is stored, the processing module referencing the index file with the link identifier to identify a unique address corresponding to the network storage location of the

referenced electronic resource and when the referenced electronic resource is moved from the network storage location to a new network location, the processing module changes the index file to relate the link identifier from the unique network address to a new unique address corresponding to the new network location and maintaining the link identifier unchanged.

41. (Currently Amended) A system as defined in claim 40, wherein the one or more computer storage media include computer executable instructions that when executed further ~~comprising~~ provide:

a data structure referenced by the index and storing each of the address information entries in connection with an index pointer specified in the index to relate to each of the plurality of link identifiers.

42. (Currently Amended) A system as defined in claim 41, wherein the one or more computer storage media include computer executable instructions that when executed further ~~comprising~~ provide:

a link source file in which each of the plurality of link identifiers and associated address information entries are declared by an electronic resource developer; and

a compiler for compiling the link source file to yield the index file and the data structure.

43. (Original) A system as defined in claim 42, wherein each entry of address information associated with one of the plurality of link identifiers comprises a service class identifying one of a plurality of server computers addressed by one of a plurality of domain names in the network environment.

44. (Original) A system as defined in claim 43, wherein each entry of address information associated with one of the plurality of link identifiers further comprises a directory path corresponding to a specific location on one of the plurality of server computers addressed by one of a plurality of domain names in the network environment.

45. (Original) A system as defined in claim 44, wherein the unique address for the referenced electronic resource comprises one of the plurality of domain names and the directory path to a specific location on the server computer addressed by the domain name.

46. (Original) A method as defined in claim 44, wherein at least one of the entries of address information further comprises a query string of search parameters.

47. (Original) A system as defined in claim 44, further comprising:

a configuration module operable for analyzing the service class included in each of the address information entries to render a specific domain name associated therewith.

48. (Original) A system as defined in claim 47, wherein the configuration module is a text file relating each service class included in an address information entry to the specific domain name associated therewith.

49. (Original) A system as defined in claim 47, wherein the configuration module is an Extensible Markup Language (XML) file relating each service class included in an address information entry to the specific domain name associated therewith.

50. (Original) A system as defined in claim 40, wherein the first electronic resource comprises machine-readable instructions for rendering an electronic document.

51. (Original) A system as defined in claim 50, wherein the electronic document is a webpage.

52. (Original) A system as defined in claim 40, wherein the network environment comprises the Internet.

53-62 Canceled

63. (Previously Presented) A computer storage medium accessible to a computing system and encoding a computer program for executing a computer process for developing a first electronic resource for use within a network environment, the computer process comprising:

defining a plurality of instructions for rendering the first electronic resource for presentation to users;

declaring within the plurality of instructions a reference to a second electronic resource, wherein the reference comprises a link identifier associated with a network location for the second electronic resource;

creating a reference file mapping the link identifier to a unique address corresponding to the network location on which the second electronic resource is stored, wherein the reference file is used by a server computer to abstract the unique address of the network location from the link identifier in order to prepare the first electronic resource for delivery to a client computer; and

when the second electronic resource is moved from the network location to a new network location, changing the reference file to map the link identifier to a new unique address corresponding to the new network location and maintaining the reference to the second electronic resource unchanged.

64. (Previously Presented) A computer storage medium as defined in claim 63, wherein the creating act comprises:

incorporating into the reference file a plurality of link identifiers mapped to a plurality of unique addresses corresponding to network locations on which a plurality of electronic resources referenced within at least one other electronic resource maintained within the network environment are stored, wherein the second electronic resource is one of the plurality of electronic resources and the unique address of the network location for the second electronic resource is one of the plurality of unique addresses.

65. (Previously Presented) A computer storage medium as defined in claim 64, the computer process further comprising:

compiling the reference file to render an index file and an associated data structure, wherein the index file relates each of the plurality of link identifiers to an entry of address information contained in the associated data structure, wherein the entries of address information each specify a unique address within the network environment where each of the electronic resources are stored, the index file and the associated data structure being in a format readable by the server computer for use in abstracting the unique address of the network location from the link identifier.

66. (Previously Presented) A computer storage medium as defined in claim 65, wherein each of the plurality of unique addresses comprises a service class identifying one of a plurality of server computers addressed by one of a plurality of domain names in the network environment.

67. (Previously Presented) A computer storage medium as defined in claim 66, wherein each of the plurality of unique addresses further comprises a directory path corresponding to a specific location on one of the plurality of server computers addressed by one of a plurality of domain names in the network environment.

68. (Previously Presented) A computer storage medium as defined in claim 67, wherein at least one of the plurality of unique addresses further comprises a query string of search parameters.

69. (Previously Presented) A computer storage medium as defined in claim 63, wherein the reference file is in a format readable by the server computer.

70. Canceled